Complete Summary

GUIDELINE TITLE

Guidelines for referral to pediatric surgical specialists.

BIBLIOGRAPHIC SOURCE(S)

Guidelines for referral to pediatric surgical specialists. Pediatrics 2002 Jul;110(1 Pt 1):187-91. PubMed

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Major congenital anomalies, malignancies, major trauma, and chronic illnesses in children requiring management by a pediatric medical or surgical specialist

GUIDELINE CATEGORY

Management

CLINICAL SPECIALTY

Family Practice
Neurological Surgery
Ophthalmology
Orthopedic Surgery
Otolaryngology
Pediatrics
Plastic Surgery
Surgery
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To serve as a voluntary practice parameter to assist general pediatricians in determining when and where to refer their patients to pediatric surgical specialists

TARGET POPULATION

Children and infants with major congenital anomalies, malignancies, major trauma, and chronic illnesses requiring management by a pediatric medical or surgical specialist

INTERVENTIONS AND PRACTICES CONSIDERED

Referral to a pediatric surgical specialist

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Pediatric General Surgery Referral Guidelines

A pediatric surgeon has completed a 5-year residency training in general surgery, plus a 2-year fellowship in pediatric surgery. He or she is certified by the American Board of Surgery in both General Surgery and in Pediatric Surgery. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

- Patients 5 years or younger who may need surgical care should be cared for by a pediatric surgeon.
- Infants and children with perforated appendicitis should be cared for by a pediatric surgeon. If a nonpediatric surgeon makes the diagnosis or suspects the diagnosis of perforated appendicitis in a child, the child should be transferred to the care of a pediatric surgeon.
- Seriously injured infants and children may be stabilized at a local hospital and then should be transferred to a pediatric trauma center.
- Infants, children, and adolescents with solid malignancies should be cared for from the outset by a pediatric surgeon or pediatric surgical specialist and a pediatric medical cancer specialist.

- Minimally invasive procedures (e.g., laparoscopy, thoracoscopy) in infants and children should be performed by a pediatric surgeon trained in these techniques.
- Infants and children with medical conditions that increase operative risk (e.g., congenital heart disease) who must undergo a common surgical procedure (e.g., hernia repair) should be cared for by a pediatric surgeon.

In the interest of good patient care, it is suggested that a general surgeon who cares for pediatric surgical problems not listed in the above categories should have had a minimum 6-month rotation as a junior or senior resident during his or her general surgical residency on a pediatric surgical service run by a pediatric surgeon. Emphasis in the training rotation should be on surgery of children older than 5 years.

A general surgeon performing surgery on children not listed in the above categories should care for a sufficient number of children annually to maintain a high level of competence and should annually attend pediatric surgery postgraduate courses and meetings.

Pediatric Otolaryngology Referral Guidelines

A pediatric otolaryngologist has completed a 4- to 5-year residency in otolaryngology/head and neck surgery and is certified by the American Board of Otolaryngologic Surgery. In addition, he or she has completed 1 or 2 years of fellowship training in pediatric otolaryngology. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

The following patients should be referred to a pediatric otolaryngologist:

- Infants, children, and adolescents with congenital malformations of head and neck structures, including the ear, nasal passages, oral cavity, and laryngotracheal airway.
- Infants and children with sensory impairments, including conductive or sensorineural hearing loss, vertiginous disorders, unilateral and bilateral true vocal fold paralysis, facial nerve paralysis, and oromotor dysfunction as evidenced by speech, swallowing, or drooling problems.
- Infants and children with acquired otolaryngologic disorders involving the ear (e.g., cholesteatoma), the pharynx (e.g., obstructive adenotonsillar hypertrophy), the laryngotracheal airway (e.g., postintubation laryngotracheal stenosis), the aerodigestive tract (e.g., foreign body aspirations), and the facial skeleton (e.g., maxillofacial trauma).
- Infants, children, and adolescents with neoplasms or vascular malformations of the head and neck structures, including the laryngotracheal airway.
- Infants and children with medical conditions that increase operative risk (e.g., congenital heart disease) who must undergo a common otolaryngologic procedure (e.g., adenotonsillectomy).
- Infants and children requiring operative airway endoscopy for the evaluation of stridor.

The following patients are preferably managed by a pediatric otolaryngologist:

- Infants and children with complicated infections that may require surgery involving the ear (e.g., otitis media with effusion and hearing change), the nose and paranasal sinuses (e.g., chronic rhinosinusitis), the pharynx (e.g., recurrent adenotonsillitis), the airway (e.g., epiglottitis), and the neck (e.g., retropharyngeal abscess).

Endoscopy Referral Guidelines

Specialists in several pediatric surgical and pediatric medical fields are trained to perform endoscopic procedures in infants and children. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year) and child (2-12 years).

- Endoscopy of the airways (e.g., bronchoscopy, laryngoscopy) in infants and children should be performed by a pediatric surgeon or a pediatric otolaryngologist or an appropriately trained pediatric medical specialist, which may include a pediatric pulmonologist or a pediatric intensivist.
- Esophagoscopy in infants and children should be performed by a pediatric surgeon, a pediatric otolaryngologist, or a pediatric gastroenterologist.
- Endoscopy of the gastrointestinal tract distal to the esophagus (e.g., esophagogastroduodenoscopy, colonoscopy) in infants and children should be performed by a pediatric surgeon or a pediatric gastroenterologist.

Pediatric Ophthalmology Referral Guidelines

A pediatric ophthalmologist has completed a residency in ophthalmology, is certified by the American Board of Ophthalmological Surgery, and has completed additional training in pediatric ophthalmology. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

Pediatric patients with the following conditions should be referred to a pediatric ophthalmologist:

- Children 7 years or younger who are nonverbal or unable to read letters and in whom there is reason to suspect eye disease.
- Infants or children with retinoblastoma or other tumors of the eye and orbital area.
- Infants or children with known or suspected cataracts, glaucoma, or blindness.
- Infants or children diagnosed with, or at risk of, retinopathy of prematurity.
- Infants or children with congenital or genetic ocular anomalies or infections (e.g., aniridia, toxoplasmosis).
- Infants or children with systemic syndromes, metabolic disorders, or chromosomal abnormalities with possible ocular involvement (e.g., juvenile rheumatoid arthritis, galactosemia, diabetes mellitus, Marfan syndrome, Down syndrome).
- Infants or children suspected of being abused and in whom there is a possibility of eye injury.

Pediatric patients with the following conditions are preferably managed by a pediatric ophthalmologist:

- Infants with congenital nystagmus and children with early onset nystagmus.
- Children with strabismus or amblyopia (i.e., dimness of vision without detectable organic lesion of the eye) or risk factors for strabismus or amblyopia (e.g., family history of amblyopia, orbital or eyelid hemangioma).
- Children with a family history of congenital or genetic ocular anomalies (e.g., aniridia), infections (e.g., toxoplasmosis), tumors (e.g., retinoblastoma), or a family history of systemic or metabolic syndromes (e.g., juvenile rheumatoid arthritis, galactosemia, diabetes mellitus), chromosomal abnormalities (e.g., Down syndrome), or other disorders with possible ocular involvement.
- Infants or children with exposure during gestation to drugs or other substances (including alcohol) that may cause congenital anomalies of the eyes.
- Infants or children with poor vision or delayed attainment of vision-related developmental milestones and infants and children with severe refractive errors or a strong family history of severe refractive errors.
- Infants or children with ocular or periocular inflammation not responding to initial topical and/or systemic antibiotic therapy or not clearing within 3 weeks of treatment and children with suspected herpes simplex or zoster infections involving the eye or a history of these infections involving the eye.

Pediatric Urology Referral Guidelines

A pediatric urologist has completed a residency in urology and is certified by the American Board of Urologic Surgery and has completed additional training in a pediatric urology fellowship. In select situations, a urologist may have gained a lifetime of pediatric experience but started practice before such fellowships were available. For purposes of developing these guidelines, the following group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

- Undescended testicles and elective congenital hydrocele/hernia are optimally corrected in infancy or early childhood; the operation should be performed by a pediatric urologist or surgical specialist.
- Hypospadias is usually repaired in infancy or early childhood; the operation should be performed by a pediatric urologist.
- Complex congenital urologic problems (e.g., duplex systems, ureterocele, bladder exstrophy, moderate or severe vesicoureteral reflux, posterior urethral valves) should preferably be managed by a pediatric urologist.
- Solid malignancies of the kidney, bladder, and testicle should be treated from the outset by a pediatric urologist or surgical specialist in conjunction with a pediatric medical cancer specialist.
- Intersex (ambiguous genitalia) conditions should be comanaged from the outset by the primary care pediatrician and a pediatric urologist or surgical specialist. The management team should include a pediatric endocrinologist and a psychologist in consultation with the primary care pediatrician and pediatric urologist or surgical specialist.
- Cystoscopic procedures in infants and children preferably should be performed by a pediatric urologist.
- A pediatric urology consultation should be considered when a child has prolonged, severe daytime voiding difficulty.
- A pediatric urologist should be involved in the care of children with spinal cord disorders (e.g., myelomeningocele, spinal cord injuries).

- Infants or children with major urologic injuries should be stabilized at the nearest medical center and then transported to a pediatric trauma center.
- Infants or children with testicular torsion should be evaluated at the nearest medical center and operated on promptly.

When a urinary tract abnormality has been identified prenatally, a pediatric urologist or surgeon should be consulted as a member of the fetal treatment team.

Pediatric Orthopedic Surgery Referral Guidelines

A pediatric orthopedic surgeon has completed a residency in orthopedics and completed an additional fellowship in pediatric orthopedics. An orthopedic tumor surgeon has completed a residency in orthopedics, plus additional training in orthopedic oncology and devotes his or her practice to patients with cancer of the bones and joints. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

- Malignant bone tumors should be managed by an orthopedic tumor surgeon, in conjunction with a pediatric medical cancer specialist.
- Benign bone tumors should be managed by a pediatric orthopedic surgeon or an orthopedic tumor surgeon.
- Congenital deformities of the upper extremity should be managed by a pediatric orthopedic surgeon or a pediatric hand surgeon.

The following patients may be best cared for by a pediatric orthopedic surgeon:

- Infants with serious malformations of the limbs (e.g., idiopathic clubfoot, congenital limb deficiency).
- Children and adolescents with significant limb deformity secondary to metabolic bone disease or other types of growth arrest.
- Infants, children, and adolescents with developmental dysplasia of the hip. (Screening for developmental dysplasia of the hip is performed by the primary care pediatrician.)
- Infants, children, and adolescents with bone or joint infection (e.g., osteomyelitis, septic arthritis), in conjunction with the primary care pediatrician and pediatric infectious disease specialist.
- Children with Perthes disease (i.e., osteochondritis of the femoral head).
- Children and adolescents with slipped capital femoral epiphysis.
- Infants, children, and adolescents with severe scoliosis or limb length discrepancy.
- Infants, children, and adolescents with deformity or gait abnormality secondary to neuromuscular conditions (e.g., cerebral palsy).
- Infants, children, and adolescents with complex fractures and dislocations.

Pediatric Neurological Surgery Referral Guidelines

A pediatric neurosurgeon is a board-certified neurosurgeon who has completed a fellowship in pediatric neurosurgery after completing a residency in general neurosurgery and is certified by the American Board of Pediatric Neurologic Surgery. For purposes of developing these guidelines, the following age group

definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

In the interest of good patient care, it is suggested that any general neurosurgeon who will manage pediatric neurosurgical problems not listed in the categories below should have had a minimum 6-month rotation as a junior or senior resident during his or her general neurosurgical residency on a pediatric neurosurgical service run by a trained pediatric neurosurgeon. Attendance at pediatric neurosurgical conferences and meetings at least every 12 months is also necessary for the general neurosurgeon caring for pediatric neurosurgical patients.

- Patients 5 years or younger who may need neurosurgical care for congenital anomalies or neoplasms of the brain or spinal cord should be cared for by a pediatric neurosurgeon.
- Infants and children with injuries to the head, spinal cord, or peripheral nerves may be stabilized at a local hospital and should then be transferred to a pediatric trauma center with pediatric neurosurgical coverage.
- Infants, children, and adolescents with brain tumors should be cared for from the outset by pediatric neurosurgical and pediatric medical cancer specialists.
- Infants, children, and adolescents with tumors of the spinal cord or peripheral nerves should be cared for from the outset by pediatric neurosurgical and pediatric medical cancer specialists.
- Infants and children with deformities of the cranium (e.g., craniosynostosis) or spine (e.g., spina bifida) should be cared for by a pediatric neurosurgeon.
- Infants and children with hematomas/hygromas of the brain should be cared for by a pediatric neurosurgeon.
- Infants and children with abscesses of the brain or spinal cord should be cared for by a pediatric neurosurgeon, in conjunction with the primary pediatrician and a pediatric infectious disease specialist.
- Infants with myelomeningocele are preferably cared for by a pediatric neurosurgeon (as part of a medical-surgical team).
- Infants with hydrocephalus are preferably cared for by a pediatric neurosurgeon.
- Infants and children with medical conditions that increase operative risk (e.g., congenital heart disease) who must undergo a common neurosurgical procedure (e.g., shunt for hydrocephalus) should be cared for by a pediatric neurosurgeon.
- Neuroendoscopy procedures in infants and children should be performed by a pediatric neurosurgical endoscopist.

Pediatric Plastic Surgery Referral Guidelines

A pediatric plastic surgeon is certified by the American Board of Plastic Surgery. He or she has completed the requirements of residency training for board certification in plastic surgery (usually a total of 6 or more years of surgical and surgical specialty training), plus additional training in pediatric plastic surgery. For purposes of developing these guidelines, the following age group definitions are used: infant (0-1 year), child (2-12 years), and adolescent (13-18 years).

- Infants and children with congenital malformations of head and neck structures including the face and skull (e.g., cleft lip and palate, craniosynostosis) should be referred to a pediatric plastic surgeon.
- Infants and children with congenital malformations of the limbs (e.g., syndactyly) should be referred to a pediatric plastic surgeon.
- Infants, children, and adolescents who are seriously burned or injured should be stabilized at a local hospital and then transferred to a pediatric burn/trauma center with a pediatric plastic surgeon as part of the treatment team.
- Infants, children, and adolescents with large cutaneous pigmented or vascular lesions (e.g., nevi, port wine stains, arteriovenous malformations) should be referred to a pediatric plastic surgeon.
- Infants, children, and adolescents with large soft-tissue tumors that, when excised, leave defects requiring tissue transfer or reconstruction are preferably cared for by a pediatric plastic surgeon.
- The pediatric plastic surgeon is optimally part of a multispecialty team (with pediatricians and other pediatric surgical specialists) in management of conditions such as myelomeningocele or complex problems requiring tissue expansion or microsurgical procedures.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting each recommendation is not specifically stated.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Optimal medical and surgical management of the child with complex problems, chronic illness, or disabilities

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

- It should be noted that the guidelines are voluntary standards for practice management. Each pediatrician must make an independent judgment in each case on the basis of facts and circumstances presented to him or her.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Guidelines for referral to pediatric surgical specialists. Pediatrics 2002 Jul;110(1 Pt 1):187-91. PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Jul

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Pediatrics

GUIDELINE COMMITTEE

Surgical Advisory Panel

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

American Academy of Pediatrics (AAP) Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Pediatrics (AAP) Policy Web site.

Print copies: Available from American Academy of Pediatrics, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on January 28, 2003. The information was verified by the guideline developer on April 16, 2003.

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